CLAIMS

What is claimed is:

1   1.   A fishing reel having a line spool in communication with a crank handle for

2 rewinding a fishing line onto said spool which displays the weight of a fish on said fishing

3 line comprising:

4   a load cell for measuring an outward force on said fishing line, said load cell having

5   an output;

6   a processor in communication with said output, wherein said processor calculates an

7   estimate of the weight of a fish on the fishing line; and

8   a display in communication with said processor for displaying the value of said

9   estimate of the weight to a fisherman.

1   2.   The fishing reel of claim 1 further wherein said load cell is configured to measure the

2 rotational force applied to said spool.

1   3.   The fishing reel of claim 1 wherein predetermined values for said estimate are stored

2 in a table and a particular value is read from said table corresponding to a given force

3 measured by said load cell.

1	4.	An apparatus for displaying the weight of a fish on a fishing line comprising:
2		a load cell for measuring an outward force on the fishing line, said load cell having
3		an output;
4		a processor in communication with said output; and
5		a display in electrical communication with said processor,
6		wherein said processor displays an estimate of the weight of said fish on said display,
7		said estimate calculated from one or more values read from said output as
8		said fish is being reeled-in.

1	5.	The apparatus of claim 4 further comprising a spin cast fishing reel.

1	6.	The apparatus of claim 5 further comprising a line spool for receiving the fishing
2		line, wherein said load cell is configured to measure the rotational force applied to
3		said spool by an outward force applied to the fishing line.

1	7.	A method for estimating the weight of a fish on a fishing line including the steps of:
2		(a) creating a table of estimated fish weights, wherein each estimated weight
3		stored in said table corresponds to a particular force acting on the fishing line
4		as a fish is reeled-in;

5   (b)   providing a fishing reel configured to measure the outward force applied to

6   the fishing line, said reel further including a processor having memory and

7   a display;

8   (c)   storing said table in said memory;

9   (d)   measuring a force applied to the fishing line as a fish is reeled-in;

10   (e)   calculating an average force comprising the average of said forces measured

11   in step (d);

12   (f)   reading a value for the estimated weight of the fish on the line from said

13   table, a pointer to said value corresponding to said average force;

14   (g)   displaying said value of the estimated weight on said display;

15   (h)   repeating steps (d) - (g) until the fish is landed.

1   8.   The method of claim 7 wherein step (f) is replaced by the steps of:

2   (f)(i)   reading a lower value from said table, a pointer to said lower value

3   corresponding to a force less than said average force;

4   (f)(ii)   reading an upper value from said table, a pointer to said upper value

5   corresponding to a force greater than said average force;

6   (f)(iii) interpolating a value for the estimated weight of the fish between said lower

7   value and said upper value from the relationship of said average force relative

8   to said force less than said average force and to said force greater than said

9   average force.

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1	9.	A method for estimating the weight of a fish on a fishing line including the steps of:
2	(a)	creating a table of estimated fish weights, wherein each estimated weight
3		stored in said table corresponds to a particular peak force applied to the
4		fishing line as a fish is reeled-in;
5	(b)	providing a fishing reel configured to measure the outward force applied to
6		the fishing line, said reel further including a processor having memory and
7		a display;
8	(c)	storing said table in said memory;
9	(d)	measuring the force applied to the fishing line as a fish is reeled-in;
10	(e)	comparing said force to a peak force;
11	(f)	if said force is greater than said peak force, storing said force as said peak
12		force;
13	(g)	reading a value for the estimated weight of the fish on the line from said
14		table, a pointer to said value corresponding to said peak force;
15	(h)	displaying said value of the estimated weight on said display;
16	(i)	repeating steps (d) - (h) until the fish is landed.

1	10.	The method of claim 9 wherein step (f) is replaced by the steps of:
2	(f)(i)	reading a lower value from said table, a pointer to said lower value
3		corresponding to a force less than said peak force;

4		(f)(ii) reading an upper value from said table, a pointer to said upper value
5		corresponding to a force greater than said peak force;
6		(f)(iii) interpolating a value for the estimated weight of the fish between said lower
7		value and said upper value from the relationship of said peak force relative
8		to said force less than said peak force and to said force greater than said peak
9		force.

1	11.		A method for estimating the weight of a fish on a fishing line including the steps of:
2		(a)	creating a table of estimated fish weights, wherein each estimated weight
3			stored in said table corresponds to a particular hook-set force measured on the
4			fishing line as a fish is caught;
5		(b)	providing a fishing reel configured to measure the force applied to the fishing
6			line, said reel further including a processor having memory and a display;
7		(c)	storing said table in said memory;
8		(d)	measuring the force applied to the fishing line as a fish is caught;
9		(e)	reading a value for the estimated weight of the fish on the line from said
10			table, a pointer to said value corresponding to the hook-set force;
11		(f)	displaying the value of the estimated weight on said display;

1	12.	The method of claim 11 wherein step (e) is replaced by the steps of:

2   (e)(i)   reading a lower value from said table, a pointer to said lower value

3   corresponding to a force less than said hook-set force;

4   (e)(ii) reading an upper value from said table, a pointer to said upper value

5   corresponding to a force greater than said hook-set force;

6   (e)(iii) interpolating a value for the estimated weight of the fish between said lower

7   value and said upper value from the relationship of said hook-set force

8   relative to said force less than said hook-set force and to said force greater

9   than said hook-set force.